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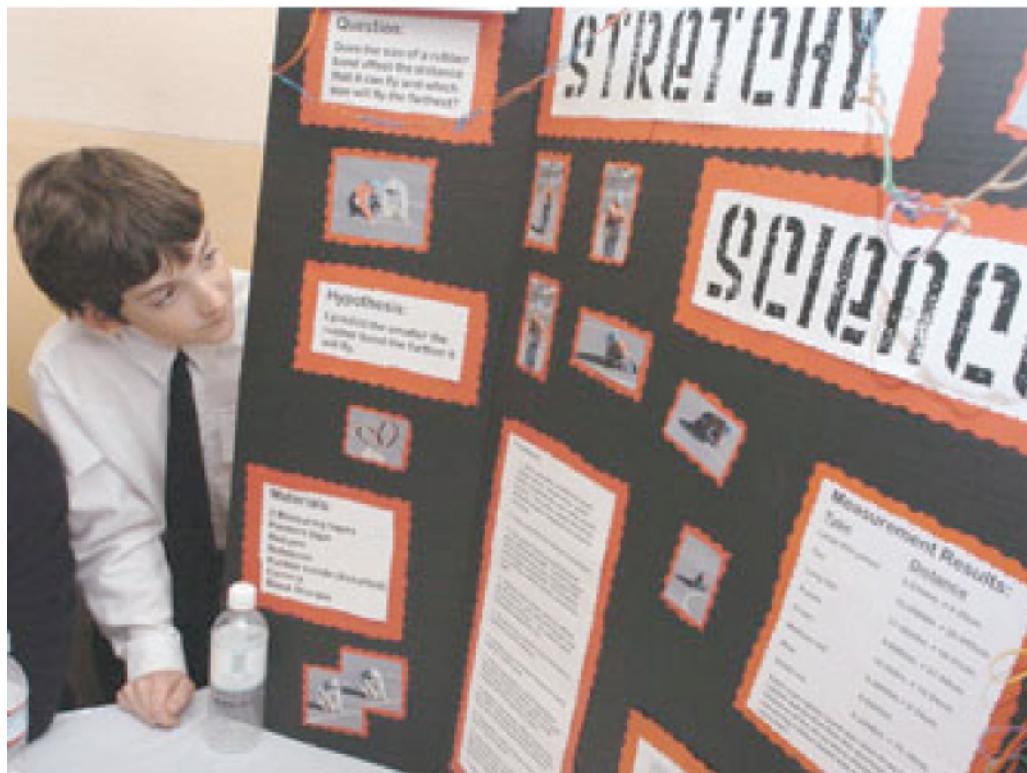
Stretching the Mind

Science projects judged at local fair

Eric Kurhi

Make no mistake about it — the kid gloves come off at the Tri-Valley Science and Engineering Fair for middle- and high school students.

Oh, the students are cordial and supportive of one another. But the judges — a collection of engineers, physicists and other science professionals from the area — give the competing entries the respect and scrutiny they deserve.



Susan Tripp Pollard

ADAM SYLVIA, a seventh-grader from Christensen Middle School, looks over his project on comparing which rubber bands would travel the farthest distance at the Tri-Valley Science and Engineering Fair held Wednesday in the Robert Livermore Community Center

"We treat it like we treat science at the lab," said David Schwoegler, a spokesman for **Lawrence Livermore National Laboratory**, which sponsors the event to help foster interest and creativity in burgeoning scientists. "It's an honest peer review of your work, and that's one of the toughest things to go through."

A roomful of judges first graded the projects they were assigned. Then, a handful of the more than 200 entries were nominated for the four top spots which will advance to further competition.

Behind closed doors, nominees are put under a magnifying glass wielded by experts in the various sciences. Critiques can be cutting:

"The work was pretty impressive, but his notebook is a complete mess." Or, "It looks fun, and interesting, but it's really just junior level material."

Another read, "What's so creative about this? None of this is really new. It might be new for the kid, but it's not new here."

But such words are not spoken out of a lack of admiration.

"I'm always impressed, and always learn something new every year," said LLNL electrical engineer Stephen Azevedo.

Azevedo said picking the winners is always the hardest part.



SUSAN TRIPP POLLARD — MediaNews sta

JUDGES MADE UP MOSTLY OF SCIENTISTS AND ENGINEERS compare notes as they vote on the finalist at the Tri-Valley Science and Engineering Fair held Wednesday in the Robert Livermore Community Center.

"We need to get enough of the right eyes looking at the final four," he said. "This year, we have four really top-notch entries."

Those four, in the senior division, included two that explored new techniques in the detection and treatment of cancer, an examination of the kinetics involved in equestrian show jumping and a study of whether anti-microbials in soap actually encourages drug-resistant strains of E. coli bacteria.

The latter subject demonstrated a popular trend, as several fair entries are related to germs.

Sunny Sun, a Granada High senior, tested for bacteria contamination on toilets at her school and at Amador Valley High. She found not only considerably more bacteria at her alma mater, but also a tendency for the germs to be more resistant to antibiotics.

"I don't think it's really dangerous bacteria, but it is still very disturbing to think that you are sitting on that stuff," Sun said.

Sun's conclusion: Her district spends about \$1,000 less per student annually, which has ripple effects that reach all the way to the toilet.

Monte Vista freshman Tyler Lanman inspected Oak Hill Pond near his school for the presence of fecal Coliform.

"I saw people putting their hands in the pond, and fishing in the pond, right near the ducks and geese which are probably pooping in the pond," he said.

He found the water contained 2,000 percent more fecal Coliform than the Environmental Protection Agency deems acceptable, and recommended either a filtration system or chemical treatment of the pond.

But at the end of the day, the senior division was ruled by the cancer researchers.

Richard Li and Yu Yang John Mei, from instructor Patti Carothers' class at Monte Vista High in Danville, will advance to the Intel International Science and Engineering Fair, the largest precollege science fair in the world. The May contest boasts 1,400 students and a grand prize of a \$50,000 college scholarship.

Junior level winners move on to state competitions. And with all the various age and category divisions, most of the entries will receive some kudos.

"Usually, about 60 to 70 percent of them go home with something to show for it," said Schwoegler.